155484

MG INDUSTRIES FACILITY
INDUSTRIAL GAS PRODUCTS
2350 FALLING SPRINGS ROAD
SAUGET, ILLINOIS

PHASE II INVESTIGATION FOR INDUSTRIAL GAS PRODUCTS

1.0 INTRODUCTION

This presents the results of the Phase II investigation project for MG Industries of the Industrial Gas Products (IGP) facility located at 2350 Falling Springs Road in Sauget, Illinois. Rust Environment & Infrastructure of St. Louis, MO (Rust) was authorized by MG Industries, as presented in a Professional Services Agreement and based on the proposal dated November 28, 1995, to obtain groundwater samples, perform water/soil field screening, and analyze groundwater samples from temporary monitoring locations.

2.0 OBJECTIVE

Based upon the facts ascertained during the Phase I investigation Rust conducted in August 1995, potentially significant environmental concerns exist with respect to the site from the heavy industrial nature and age of the surrounding properties. Several adjacent properties are under investigation to assess the extent of further action under CERCLA by the Illinois Environmental Protection Agency (IEPA). The approximate age (1987) and type of industry at the subject site most likely limits potential contamination, if present, on site, to off-site sources.

The project objective was to determine if constituents are present which may represent a potential threat to the property.

3.0 GROUNDWATER SAMPLING

A portable Geo-Probe Model 8-ML Soil Probing Unit using hydraulic powered probe was mobilized by Rust on January 25, 1996 to the facility for the purpose of obtaining up to four groundwater samples at a maximum depth of twenty feet.

The soil boring/groundwater sampling locations are presented in Figure 1 and are as follows:

Sampling point # 1 - West from the trailer area next to the Falling Springs Road;
Sampling point # 2 - South from the nitrogen Plant #2 next to the property line; and
Sampling point # 3 - East from the nitrogen Plant # 1 next to the property line.

A proposed fourth sampling location as presented in the proposal is shown on Figure 2 (e.g., West from the liquid nitrogen tanks next to the Falling Springs Road). This location was not included in the project due to the complex network of underground utility lines which transport nitrogen and hydrogen gas.

The groundwater sampling locations were identified based on the results of the Phase I site assessment, and also on the presumed groundwater flow direction to the west and southwest toward the Mississippi River located about one mile west of the property. The area east and southeast of the site are a potential wetland area.

The sampling locations were confirmed by the IGP and Rust representatives and utility lines marked prior to site activities. In addition, a Health and Safety Plan was prepared by Rust in accordance with 29CFR 1910, meeting applicable requirements of OSHA standards. A copy of the plan is presented in the attachment A.
Due to the weather conditions and complex sampling issues, Rust mobilized project personnel twice to complete the site activities.

3.1 Procedures

The geoprobe was hydraulically advanced at each soil boring location to a termination depth of 20 feet. The probe was then withdrawn several inches to allow infiltration of groundwater into the annulus or a slotted section of rod was utilized at the probe tip. In each case, a fine, heaving sand was encountered that infiltrated the geoprobe rods which made groundwater sampling and field screening using a PID instrument very difficult or in some cases not feasible.

3.2 Decontamination of sampling equipment.

All tools used for groundwater sampling were decontaminated after collection of each sample by a high pressure steamer at an established decontamination area. Wastes generated from the decontamination procedure were disposed in accordance with applicable state and federal regulations.

3.3 **Sampling results.**

The groundwater samples were analyzed in a state certified laboratory in accordance with SW - 846 as follows:

- Volatile Organic Compounds using Method 8240
- Semivolatile Organic Compounds using Method 8270
- Total Metals - Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver- using Method 3010

The laboratory analyses were conducted by Applied Research & Development Laboratory located in Mt. Vernon, Illinois.

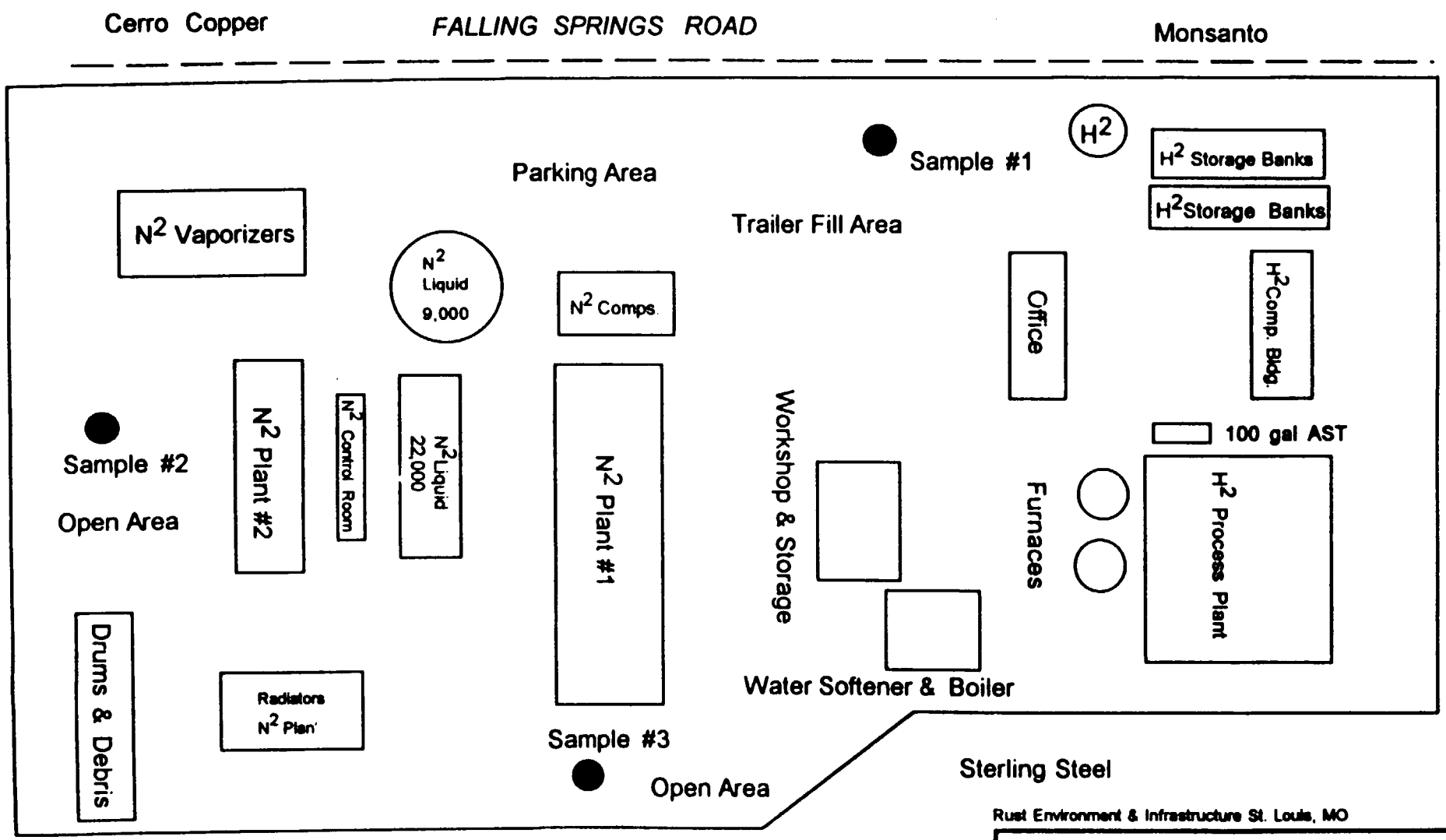
The individual results of all samples are provided in Table 1 which also includes the State of Illinois Groundwater Quality Class I and Class II standards for reference.

The groundwater sample ID # B-1 from the sampling location #1 was analyzed for the Volatiles Organic Compounds, Semivolatiles Organic Compounds and Total Metals. The following metals were at detection level or above: arsenic at level 0.055 mg/l, barium at level 1.2 mg/l, cadmium at level 0.005 mg/l, chromium at level 0.34 mg/l and lead at level 0.18 mg/l. The Volatile and Semivolatile Organic Compounds were not detected.

The groundwater sample ID # 2 from the sampling location # 2 was analyzed for the Semivolatiles Organic Compounds and Total Metals. The following metals were at detection level or above: arsenic at level 0.076 mg/l, barium at level 2.2 mg/l, cadmium at level 0.0078 mg/l, chromium at level 0.97 mg/l, and lead at level 0.13 mg/l. The Semivolatile Organic Compounds were not detected.

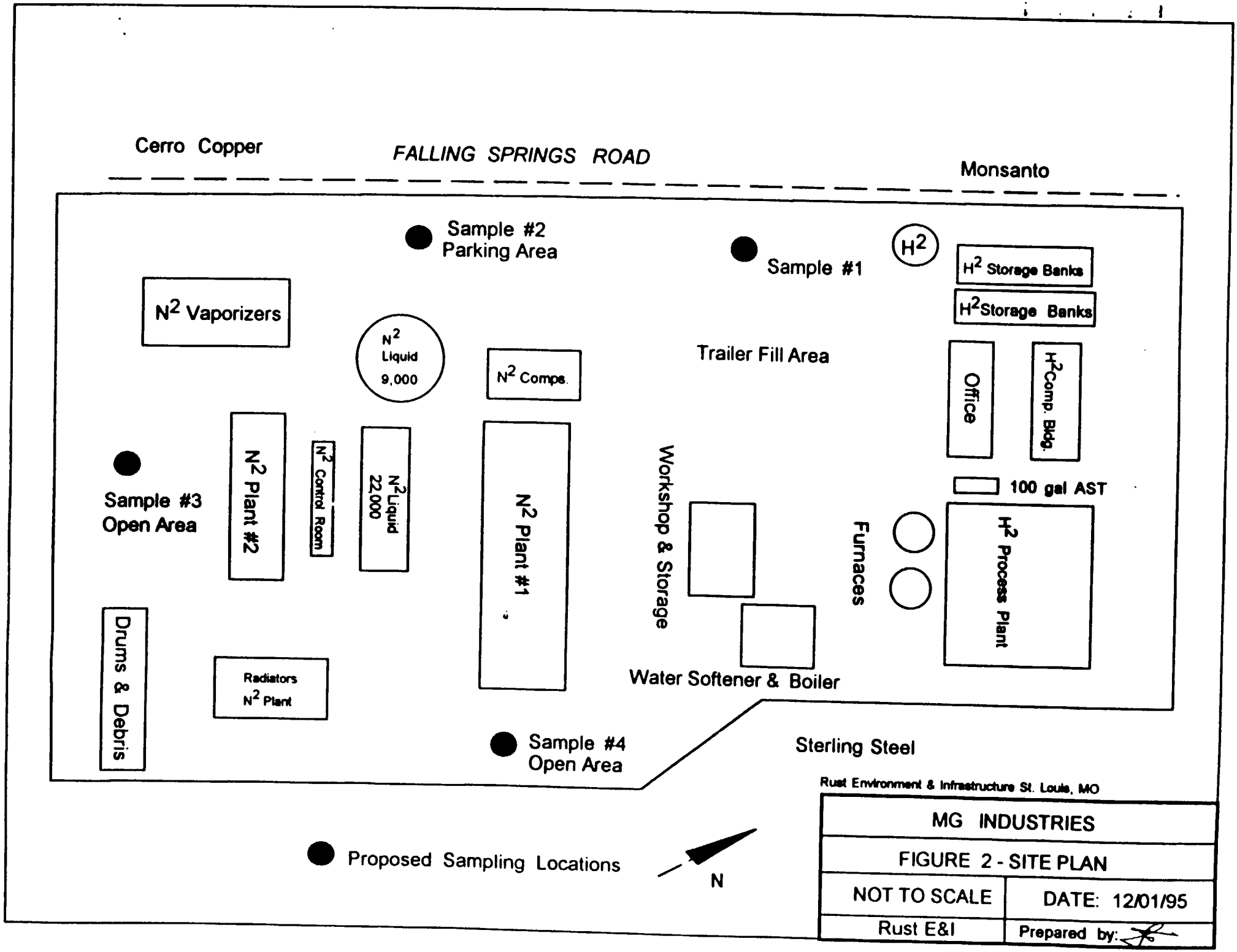
The groundwater sample ID # 3 from the sampling location # 3 was analyzed for Volatile Organic Compounds. Sufficient volume of a sample was not available to analyze for other constituents. The Volatile Organic Compounds were not detected.

The copies of analytical results and chain of custody are presented in the Attachment B.



Rust Environment & Infrastructure St. Louis, MO

MG INDUSTRIES	
FIGURE 1 - SITE PLAN	
NOT TO SCALE	DATE: 02/09/96
Rust E&I	Prepared by:


Cerro Copper
FALLING SPRINGS ROAD
Monsanto
Sample #2
Parking Area
Sample #1
H2
H2 Storage Banks
H2Storage Banks
N2 Vaporizers
N2 Liquid 9,000
N2 Comps.
Trailer Fill Area
Office
H2Comp. Bldg.
Sample #3
Open Area
N2 Plant #2
N2 Control Room
N2Liquid 22,000
N2 Plant #1
Workshop & Storage
100 gal AST
Furnaces
H2 Process Plant
Drums & Debris
Radiators
N2 Plant
Water Softener & Boiler
Sample #4
Open Area
Sterling Steel
Proposed Sampling Locations
N
Rust Environment & Infrastructure St. Louis, MO
MG INDUSTRIES
FIGURE 2 - SITE PLAN
NOT TO SCALE
DATE: 12/01/95
Rust E&I
Prepared by:

Industrial Gas Products Phase II Monitoring

TABLE 1

Groundwater Analytical Results and Standards (MG/L)

Constituent	Sample B-1	Sample B-2	Sample B-3	Standard Class I	Standard Class II
Total Metals					
Arsenic	0.055	0.076	N/A	0.05	0.2
Barium	1.2	2.2	N/A	2	2
Cadmium	0.005	0.0078	N/A	0.005	0.05
Chromium	0.34	0.97	N/A	0.1	1
Lead	0.18	0.13	N/A	0.0075	0.1
Mercury	<0.0002	<0.0002	N/A	0.002	0.01
Selenium	<0.04	<0.04	N/A	0.05	0.05
Silver	<0.005	<0.005	N/A	0.05	-
Volatiles	U	N/A	U	-	-
Semivolatiles	U	U	N/A	-	-

Note: U - indicates compound was analyzed for but not detected
N/A - compound was not analyzed

4.0 CONCLUSIONS

Elevated levels of arsenic, barium, cadmium, chromium, and lead were determined in the groundwater samples collected from the sampling points # 1 and # 2 ranking the results between Class I and Class II Groundwater Standards as stated in the State of Illinois regulations Sections 620.410 and 620.420. Although part of the constituent concentrations may be associated with the particulate matter present in the sample, the likelihood of these parameters exceeding Class II is still high. It is feasible that these levels are associated with metal manufacturing industrial materials (i.e., K061). It is also likely that contamination may be a result of the fill material at adjacent areas to the facility. While the sampling was not done in full conformance with established regulations, the results appear to indicate an issue to evaluate further.

The installation of a permanent well is not recommended at this time unless a soil grid sampling confirms the source is not from a site fill. Furthermore additional information discovery may be warranted regarding adjacent properties. If constituents are found throughout the area, and considered ubiquitous, a demonstration could be made to show soil/groundwater constituents are at the area background level.

It was noted in the Phase I report that a stainless steel well thought to be installed by IEPA is adjacent to the site. Discovery may be revealed if the same constituents are present in previous sampling done by the regulatory agency.

Given the levels of metals which appeared to be associated with soils, an issue of worker exposure and risk may also be evaluated.

APPENDIX A

HEALTH AND SAFETY PLAN

Question 23

Quality • Integrity • Creativity • Responsiveness

Phase II Investigation

Industrial Gas Products 2350 Falling Springs Road Sauget, Illinois

Prepared for:

MG Industries
3 Great Valley Parkway
Malvern, PA 19355-1424

Prepared by:

RUST Environment & Infrastructure
555 N. New Ballas Road
St. Louis, Missouri 63141

February, 1996

Quality through teamwork

DRAFT

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July 1, 1997

Via Certified Mail -- Return Receipt Requested and Federal Express

Mr. Carlton D. Cuffman
U.S. Environmental Protection Agency
77 W. Jackson Boulevard - SM-5J
Chicago, IL 60604-3590

RE: 104(e) Information Request
Sauget Areas I and II Superfund Sites -
Sauget/Cahokia, Illinois

Dear Mr. Carlton:

This firm represents Sterling Steel Foundry, Inc. ("Sterling Steel") and responds on its behalf to the Information Request covering the Sauget Areas I and II Superfund Sites ("Sites"). The United States Environmental Protection Agency ("EPA") issued this request on May 20, 1997 under Section 104(e) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"). Sterling Steel received the request on or about May 22, 1997. I requested an extension of time to prepare the response from you on June 20 and received an extension to July 2, 1997 to reply.

The Information Request states that pursuant to Section 104(e)(2) of CERCLA, as amended, the EPA may gather information relevant to site(s) and to enforce compliance with the statute, seeking penalties for failure to comply. Sterling Steel's response is in accordance with this statement in the Information Request, but Sterling Steel objects to some of the questions as being overly broad and beyond the scope of the statutory section cited.

The following provides a brief overview of Sterling Steel's operation of the facility located at 2300 Falling Springs Road in Sauget, Illinois ("Facility"):

> On or about August 30, 1982, Sterling Steel acquired certain assets of the former Sterling Steel Casting Co. (an entity that is completely separate from and unrelated to St. Louis Steel Casting or Sterling Steel) as an assignee under a purchase agreement between its parent company, St. Louis Steel Casting, Inc., and Sterling Steel Casting Co. Sterling Steel Casting Co. shut down its business at this Facility prior to Sterling Steel's purchase. Production at the shuttered Facility was not commenced by Sterling Steel until February 1983. Therefore, Sterling Steel operated the Facility less than 2 years at the tail end of the period for which EPA is requesting information.

Based on the information contained in the Site History provided by EPA with the Information Request, only one of the sites of the two Areas was active during the time Sterling Steel was in operation. This site, Site P, is an inactive landfill which was operated by Sauget and Company between 1972 and 1984. All of the other sites were inactive prior to 1980, well before Sterling Steel began operation at the Facility. Sterling Steel did not utilize Site P for offsite disposal of waste.

I am providing this response on behalf of Sterling Steel without personal knowledge of the facts or events described in the documents reviewed or related to me in my interview of Mr. Roy Lussow as to his knowledge of the matters contained in the Information Request. Based upon my inquiry, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. Attached at Tab E is an affidavit of Mr. Lussow stating that a diligent interview and record search has been completed in preparation of this response.

INFORMATION REQUEST ANSWERS

1. Answer:

> Mr. Roy Lussow, Vice President and General Manager
> Sterling Steel Foundry, Inc.
> 2300 Falling Springs Road
> Sauget, IL 62206
> (618) 337-6123

2. Answer:

Letter dated November 28, 1989 from Illinois Environmental Protection Agency concluding Sterling Steel is not a PRP with respect to Sauget Area II sites (Tab A); Phase I Investigation Report dated February 1996 for Industrial Gas Products (Tab B); Letter Dated February 24, 1992 from Illinois Environmental Protection Agency advising of CERCLA Screening Site Inspection (Tab C); Corporate documents of Sterling Steel Casting Co. issued by the State of Illinois, Purchase Agreement between St. Louis Steel Casting and Sterling Steel Foundry Co., Agreement and Assignment between St. Louis Steel Casting and Sterling Steel, Conveyance, Mortgage and Promissory Note by Sterling Steel to Sterling Steel Casting, Warranty Deed to Sterling Steel, Assignment of Note to William and Mary Shive from Sterling Steel Casting and Release of Mortgage (Tab D).

3. Answer:

Mr. William J. Shive, majority shareholder and principal of the former Sterling Steel Casting Co.

Last known address: P.O. Box 1264
Effingham, IL 62401

4. Answer:

The Sterling Steel Facility at 2300 Falling Springs Road does not have an EPA Identification Number as it generates no hazardous wastes as a result of its operations.

5. Answer:

Roy Lussow, Vice President and General Manager
Sterling Steel Foundry, Inc.
2300 Falling Springs Road
Sauget, IL 62206
(618) 337-6123

6. Answer:

No known releases of hazardous materials have occurred from Sterling Steel's Facility.

7. Answer:

No person has arranged for the disposal, treatment, discharge or release of hazardous materials from Sterling Steel's Facility at or to any of the Sauget Area sites during Sterling Steel's operation of the Facility during the period set forth in the Information Request.

8. Answer:

Sterling Steel produces custom carbon steel and manganese steel (Hadfield) castings. Byproducts include spent foundry sand, popcorn slag (aluminum oxide) and very minor amounts of quench water scale. All of these byproducts have been tested and found to be nonhazardous.

9. Answer:

Two types of casting processes are conducted at this Facility — "green" sand castings and "no bake" sand castings. Both processes use casting sand and a binder to make "one-time" sand molds to produce the steel castings. "Green" sand consists of casting sand and a bentonite clay binder. At the proper moisture content, the clay binds the sand to form the mold. Once molten steel is poured into the mold, the moisture is driven off and the sand falls away from the casting. The "no bake" sand consists of casting sand and a two part, chemical binder (Alphacure and Alphaset) that binds the sand to form the mold. The molten steel causes the binding to deteriorate and the sand falls away from the casting. The steel cast is removed for finishing and the sand is returned to a pulverizer, combined with new sand and reused. The melting process by which the steel becomes molten occurs in electrical induction furnaces. Small amounts of aluminum are added to the melting pot which forms oxides with other impurities that float to the top and are skimmed off as "popcorn" slag. Some castings are cooled at room temperature, and others are heat-treated by placing the casting into a quench tank filled with water. Approximately 10-12% of the casting sand is wasted each day as special (nonhazardous) waste. The casting is then finished through sandblasting or shotblasting.

10. Answer:

None of the listed chemicals were used, purchased, produced or stored at the Facility during its operation by Sterling Steel beginning in February 1983 through 1985.

11. Answer:

None of the listed chemicals was used, purchased, produced or stored at the Facility during its operation by Sterling Steel beginning in February 1983 through 1985.

12. Answer:

None of the pictured catalytic agents were used at the Facility during the period of Sterling Steel's operation of the Facility beginning February 1983 through 1985.

13. Answer:

Waste casting sand, minor amounts of quench tank scale, baghouse dust, and popcorn slag (aluminum oxide) were accumulated on site between February 1983 and the end of 1985. Off-spec castings were re-melted and not disposed of off-site. General debris (pallets, office trash, etc.) were disposed of by a local trash hauler.

14. Answer:

Facility operations did not change between February 1983 and the end of 1985.

15. Answer:

The Facility did not have a laboratory and did not dispose of any contaminated soil or contaminated clothing or protective gear, other than possibly disposable paper respirators (i.e., dust masks), during the period between February 1983 and the end of 1985. If such disposable respirators were used, they would have been disposed of with the general plant debris.

16. Answer:

Sterling Steel had no record or recollection of utilizing any of the companies listed.

17. Answer:

Illinois EPA determined Sterling Steel had no responsibility for the clean-up of the Sauget Treatment Plant lagoons and ponds on the basis that Sterling Steel was not in operation until after the time the Sauget Treatment Plant ceased operation. See enclosed letter from Illinois EPA dated November 28, 1989, at Tab A.

18. Answer:

Sterling Steel did not spill or discharge process wastewater, sanitary wastewater or liquid chemical wastes or petroleum products into Dead Creek.

19. Answer:

Sterling Steel did not operate this Facility prior to its hook up to the Village of Sauget's process water sewer interceptor system, if any such hook up occurred. The Facility was hooked up to the American Bottoms treatment plant during Sterling Steel's operation of the Facility and only sanitary wastewater was discharged from the Facility.

20. Answer:

All sanitary wastewater from this Facility is discharged into the American Bottoms Regional Wastewater Treatment Facility. No industrial process waters are discharged as such waters are recycled and ultimately consumed in the casting process.

21. Answer:

Sterling Steel has no copies of any permits issued by local government authorities to Sterling Steel between February 1983 and 1985.

22. Answer:

The facility has no PCB items and maintains no such documents.

23. Answer:

Sterling Steel has not performed any testing of groundwater to determine groundwater flow or quality on or around the Facility or on or around any of the referenced Sauget Area sites. However, a potential purchaser of a lessee of some of Sterling Steel's property, Industrial Gas Products located at 2350 Falling Springs Road in Sauget, Illinois, has performed some groundwater investigation on its property. Enclosed at Tab B is a copy of the report prepared by RUST Environment & Infrastructure provided to Sterling Steel.

24. Answer:

Sterling Steel has not taken any measures which characterize, measure, sample or in any way test for the presence of hazardous materials at or around any of the referenced Sauget Area sites. Illinois EPA did conduct a CERCLA Screening Site Inspection of the Facility in March 1993. Sterling never received a copy of that investigation and the Facility is not a part of any of the referenced Sauget Area Sites (see Tab C).

25. Answer:

Sterling Steel acquired the property in August 1983 as an assignee of the purchaser (St. Louis Steel Casting Co., the parent of Sterling Steel) of certain assets of Sterling Steel Casting Company (See Tab D). Sterling Steel Casting Company under various corporate names - Sterling Electric Steel Casting Co., (July 10, 1922), Sterling Steel Co. (April 14, 1923), and Sterling Steel Casting Co. (August 18, 1928) -- operated the facility since 1922 (See Tab D). Previous ownership/operation is unknown. Sterling Steel's tenant, Industrial Gas Products, commenced its lease of a portion of Sterling Steel's acquired property on July 1, 1987.

26. Answer:

Sterling Steel has no such results or reports responsive to any questions herein.

27. Answer:

See Tab D for Purchase Agreement between St. Louis Steel Casting and Sterling Steel Foundry Co., Agreement and Assignment between St. Louis Steel Casting and Sterling Steel, Conveyance, Mortgage and Promissory Note by Sterling Steel to Sterling Steel Casting, Warranty Deed to Sterling Steel, Assignment of Note to William and Mary Shive from Sterling Steel Casting and Release of Mortgage.

If you have any further questions, please contact me.

Very truly yours,

Cathy

Cathleen S. Bumb

Enclosures

cc w/encl.: Mr. Roy Lussow

Question 17

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

(217)782-5544

November 28, 1989

Alphonse McMahon, Esq.
Peper, Martin, Jensen, Maichel & Hetlage
24th Floor
720 Olive Street
St. Louis, Missouri 63101-2396

Re: LPC 1630200005 -- St. Clair County
Sauget Sites - Area II

Dear Mr. McMahon:

The Agency and the Attorney General's office have reviewed the transactional information you provided concerning acquisition of the assets of Sterling Steel Casting Company by your client, Sterling Steel Foundry, Inc. Based upon that information and a consideration of Illinois law concerning corporate successor liability, we have concluded that Sterling Steel Foundry, Inc. should not be regarded as a responsible party for the release or threatened release of hazardous substances at the above-referenced site.

Our basis for considering Sterling Steel Foundry, Inc. as a potentially responsible party for Area II of the Sauget Sites related to discharge to the lagoon system of the old Sauget wastewater treatment plant. However, you noted such discharge would have occurred prior to your client's asset purchase of the foundry in 1982.

Thank you for your cooperation and assistance in this matter.

Sincerely,

Bruce L. Carlson
Attorney
Enforcement Programs

BLC:mm/45-3

cc: Paul Takacs
Terry Ayers
Thomas Miller
James Morgan, AGO
Christine Zeman, AGO